

Closure Plan for Spent Pickle Liquor Storage Facility
Site S-21
EPA I.D. No. OHD 004 222030
United States Steel Corporation
Lorain Plant
Lorain, Ohio

EPA Region 5 Records Ctr.



320892

Introduction

The closure plan for Site S-21, covering the two 45,000-gallons storage tanks, 4,000-gallon concrete sump, pump stations, and associated piping and equipment is revised to comprehend changing the designation from that of a storage facility permitted under interim status to that of a temporary accumulation site under the 90-day waste accumulation provision of 40 CFR 262.34 and Ohio EPA Hazardous Waste Rule 3745-52-34.

General Facility Description

United States Steel Corporation (USSC) has operated a spent pickle liquor storage facility, designated as Site S-21, within the Lorain Plant boundaries from October 1980 to November 3, 1983. USSC is permitted under interim status regulations, Hazardous Waste Permit No. 02-47-0108, to operate Site S-21 and other hazardous waste facilities within the Lorain Plant. Site S-21 is used for the temporary accumulation of spent pickle liquor generated within Lorain Plant. Accumulated spent pickle liquor is transferred from the storage tanks to bulk tank trucks and shipped offsite for use as a treatment chemical in a POTW or alternately, disposed by deep well injection.

Site S-21 consists of two rubber-lined 45,000-gallon carbon steel tanks located adjacent to each other and surrounded by a concrete containment structure, 36 X 36 X 5 feet high, a 4,000-gallon concrete sump equipped with agitators and sump pumps, a pump house located adjacent to the containment structure for loading tank trucks, rubber-lined interconnection piping and miscellaneous equipment and instrumentation.

Waste Characterization

The waste accumulated in the two 45,000-gallon storage tanks and the concrete sump is spent sulfuric acid from steel pickling operations. Spent pickle liquor is a listed EPA hazardous waste (K062). The characteristics for which this waste is listed are corrosivity and EP toxicity with lead and hexavalent chromium the hazardous constituents of concern.

Maximum Waste Inventory

At any given time during the life of the facility, the maximum inventory of waste would be 94,000 gallons, the combined capacities of the two storage tanks and the concrete sump.

Normal Operating Procedure

Spent pickle liquor, generated from steel pickling operations conducted within the Lorain Plant is wasted from the pickling process tanks on a periodic basis and flows by gravity to the 9 X 9 X 18 feet deep concrete sump adjacent to the spent pickle liquor storage tanks. Pumps in the sump operate automatically on level controls and pump the accumulated liquor to either of the 45,000-gallon storage tanks. On an intermittent basis the two tanks are emptied, with their contents pumped into tank trucks and transported offsite. Typically, all the spent pickle liquor is shipped to the Northeast Ohio Regional Sewer District for use as a chemical in the treatment of wastewater. In the event that the Regional Sewer District is unable to accept spent pickle liquor shipments, the material will be shipped offsite for disposal by deep well injection (Chemical Waste Management, Vickery, Ohio disposal site).

Due to pipeline repairs, all spent pickle liquor has been pumped from the process pickling tanks directly to tank trucks since July 1983. This temporary process modification completely bypasses Site S-21.

Removal of Waste Inventory

All spent pickle liquor was removed from the two 45,000-gallon storage tanks on July 20, 1983 and transported to Cleveland's Easterly Waste Water Treatment Plant for reuse as a treatment chemical. All remaining spent pickle liquor and spent pickle liquor sludge was subsequently removed from the sump and transported in two shipments on November 2 and 3, 1983 to Envirite Corporation (Dayton, Ohio) for disposal. These shipments constituted the removal of all spent pickle liquor inventory from Site S-21.

Procedures for Facility Decontamination

Although Site S-21 is to be closed as a permitted spent pickle liquor storage facility under interim status regulations, the facility will be operated as a temporary accumulation site under the 90-day waste accumulation provision and subject to regulations applicable to generators of hazardous waste as well as the special requirements of the 90-day waste accumulation provision.

It is USSC's understanding, following inquiries with Ohio EPA personnel, that a complete facility closure plan is not required if the facility will continue to be operated; however, the entire waste inventory must be removed prior to beginning the first 90-day waste accumulation period. Also, facility decontamination is not required under this "partial" facility closure and hence, is not addressed in this closure plan.

Implementation of Temporary Accumulation Under the 90-Day Waste Accumulation Provision

USSC has not implemented accumulation of spent pickle liquor under the 90-day waste accumulation provision of the regulations because neither the two 45,000-gallon storage tanks nor 4,000-gallon sump are presently utilized. Current plant operating procedure bypasses these facilities by pumping spent pickle liquor from the process pickling

tanks directly to tank trucks for transportation offsite. However, this operation is not considered normal practice and it is anticipated that normal operating procedures, using the accumulation site, will be resumed once pipeline repairs are completed.

Closure Certification

On approval of this closure plan by the Ohio EPA, an independent registered professional engineer will inspect Site S-21 and examine hazardous waste manifests to certify that all waste inventory has been removed from the site and properly disposed. This certification will attest to the closure of the site in accordance with the approved plan and will be submitted to the Ohio EPA and USEPA by both the independent professional engineer and the appropriate USSC authority.